

We claim:

1. A method for downloading a document from a server to a client comprising the steps of:
 - 5 repackaging scripts in a document program at the server such that scripts are in a program location no earlier than the program location of a first corresponding data element;
downloading said repackaged document program to said client;
rendering said document at said client as it arrives until complete; and
 - 10 in parallel with said rendering step, scheduling execution of said scripts by said client to validate corresponding data elements no sooner than rendering.
2. The method of claim 1, comprising the further step of validating said rendered document once completely rendered.
- 15 3. The method of claim 1, comprising the further step of inputting user data for said document at said client as rendering occurs.
4. The method of claim 3, comprising the further step of said client validating said input user data.
- 20 5. The method of claim 1, wherein said repackaging step packages all scripts required by the first data element whose validation requires those scripts.
- 25 6. The method of claim 1, wherein said scheduling step executes a script as it is downloaded from said server.
7. The method of claim 1, wherein said scheduling step executes a script once all data elements relying on said script have been downloaded from said server.
- 30 8. The method of claim 1, wherein said scheduling step executes a script for an n^{th} data element as the $n+1^{\text{th}}$ data element is being downloaded.
9. A computer system for downloading a document comprising:

a server computer operable to repackage a document program at the server such that scripts are in a program location no earlier than a first corresponding data element; and

5 a client computer operable to download said repackaged document program, render said document as it arrives until complete, and, in parallel with said rendering, schedule execution of said scripts to validate corresponding data elements no sooner than rendering.

10 10. The computer system of claim 9, wherein said client computer validates said rendered document once completely rendered.

11. The computer system of claim 9, further comprising a user data interface to said client computer for data input to said document as rendering occurs.

15 12. The computer system of claim 11, wherein said client computer validates said input user data.

20 13. The computer system of claim 9, wherein said server computer repackages all scripts required by the first data element whose validation requires those scripts.

14. The computer system of claim 9, wherein said client computer schedules execution of a script as it is downloaded from said server computer.

25 15. The computer system of claim 9, wherein said client computer schedules execution of a script once all data elements relying on said script have been downloaded from said server computer.

30 16. The computer system of claim 9, wherein said client computer schedules execution of a script for an n^{th} data element as the $n+1^{\text{th}}$ data element is being downloaded from said server computer.

35 17. A client computer for downloading from a server computer a repackaged document having scripts that are in a program location no earlier than the location of a first corresponding data element, said client computer being operable to render said document as it arrives until complete, and, in parallel with said rendering, schedule

execution of said scripts to validate corresponding data elements no earlier than rendering.

18. The client computer of claim 17; wherein said rendered document is validated
5 once completely rendered.

19. The client computer of claim 17, further comprising a user data interface for data input to said document as rendering occurs.

10 20. The client computer of claim 19, wherein said input user data is validated.

21. The client computer of claim 17, wherein execution of a script is scheduled as it is downloaded from said server computer.

15 22. The client computer of claim 17, wherein execution of a script is scheduled once all data elements relying on said script have been downloaded from said server computer.

23. The client computer of claim 17, wherein execution of a script is scheduled for an n^{th} data element as the $n+1^{\text{th}}$ data element is being downloaded from said server
20 computer.

24. A server computer operable to repackage a document program such that scripts are in a program location no earlier than the location of a first corresponding data element.
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25. The server computer of claim 24, wherein said repackaging is of all scripts required by the first data element whose validation requires those scripts.

26. A computer program product comprising a computer program recorded on a
30 storage medium, said program comprising:

program element for repackaging a document program at the server such that scripts are in a program location no earlier than the location of a first corresponding data element;

35 program element for downloading said repackaged document program to said client;

program element for rendering said document at said client as it arrives until complete; and

program element for, in parallel with execution of said program element for said rendering, scheduling execution of said scripts by said client to validate corresponding data elements no sooner than rendering.

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